

WHAT IS CLAIMED IS:

1. A method for determining a read strobe pulse delay for data read from a memory having a plurality of memory chips, each one of the chips providing data along with an associated read strobe pulse, the data read from each one of the plurality of chips being stored in a corresponding one of a plurality of storage devices in response to the read strobe pulse associated with such one of the plurality of chips, comprising:

(a) monitoring read requests for the memory from a plurality of resources and from a read strobe pulse delay training system;

(b) granting access to the memory to the read strobe pulse delay training system in response to the request from the read strobe pulse delay training system;

(c) operating the training system when such system has been granted access to the memory to determine the read strobe pulse delay, such delay being applied in to the plurality of read strobe pulses to enable valid read data from the plurality of memory chips to be stored in each one of the plurality of the storage device in response to the read strobe pulses being delayed by the read strobe pulse delay; and

(d) delaying the plurality of read strobe pulses by the determined read strobe pulse delay when read data is subsequently provided from the memory for use by the plurality of resources.

2. The method recited in claim 2 wherein the training system operation comprises:

(a) loading, in response to the training request signal, a predetermined data into the plurality of chips of the memory at a predetermined address;

(b) setting a delay applying the read strobe pulses to the plurality of storage devices at an initial delay;

(c) reading data from the memory chips at the predetermined address;

(d) storing the read data into the storage device in response to the applied delay;

(e) reading the stored data from the storage device;

(f) comparing the data read from the storage device to the predetermined data to determine whether the read data is valid or invalid;

(g) changing the delay applied to the plurality of read strobe pulses;

(h) repeating steps (c) through (g) for a predetermined number of delays;

- (i) determining the strobe pulse delay in accordance a predetermined number of valid data read consecutively from the storage device; and
- (j) subsequently applying the determined strobe pulse delay for the read strobe pulses.

3. A method for determining a read strobe pulse delay for data read from a memory having a plurality of memory chips, each one of the chips providing data along with an associated read strobe pulse, the data read from each one of the plurality of chips being stored in a corresponding one of a plurality of storage devices in response to the read strobe pulse associated with such one of the plurality of chips, comprising:

- (a) loading, in response to a training request signal provided by the system during operation of the system in processing the user data, a predetermined data into the memory at a predetermined address;
- (b) setting a delay to the read strobe pulses at an initial delay;
- (c) reading data from the memory chips at the predetermined address;
- (d) storing the read data into the storage device in response to the applied delay;
- (e) reading the stored data from the storage device;
- (f) comparing the data read from the storage device to the predetermined data to determine whether the read data is valid or invalid;
- (g) changing the delay applied to the plurality of read strobe pulses;
- (h) repeating steps (c) through (g) until a predetermined number of delays;
- (i) determining the read strobe pulse delay in accordance with a time window having a predetermined number of valid data read consecutively from the storage device; and
- (j) subsequently using the determined strobe pulse delay in subsequently processing the user data until the occurrence of a subsequent training signal.